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INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

C-O-N-F-I-D-E-N-T-I-A-L

50X1-HUM

COUNTRY USSR (Moscow Oblast)

REPORT

SUBJECT Borets Machine Construction Plant in Moscow: (description of product, security, transportation & raw materials)

DATE DISTR. 14 September 1960

NO. PAGES 3

REFERENCES RD

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DATE OF INFO.

PLACE & DATE ACQ.

THIS IS UNEVALUATED INFORMATION. SOURCE GRADINGS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE. 50X1-HUM

[redacted]

[redacted] two reports on the Borets Machine Construction Plant in Moscow.

Attachment 1 is a four-page report titled, "Borets Machine Construction Plant". The report contains information of a very general nature on the following subjects: transportation, raw materials, truck trips, organization and personnel, and security.

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Attachment 2 is a six-page report titled, "Borets Machine Construction Plant in Moscow". [redacted] nomenclature and description of machinery which was produced at the Borets Plant during the period 1946-1956:

1. ND-20 pressure pump (nasos davleniya). This was a single-cylinder electrically powered pump with an engine block about 1.5 meters long, two to three meters high. These pumps, produced during 1946-1956 at an unknown rate, were believed to be for the petroleum industry or for agricultural purposes. No other specifications were known.

2. ND-40. This was a double-cylinder, pressure pump of larger size than the ND-20, weight unknown. The pump's production rate, use, cost, and sale price were unknown. The ND-40 was produced during 1946-1956. 50X1-HUM

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enclosure attached

STATE	X	ARMY	X	NAVY	X	AIR	45	NSA	X	OCR	X	NIC	X		

(Note: Washington distribution indicated by "X"; Field distribution by "#".)

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3. KP-80. This was a compressor approximately three to four meters long, of heavy construction, which was mounted on wheels and drawn by a tractor. Two or three machines were produced per month [redacted] 50X1-HUM [redacted] The compressor's characteristics and use were unknown. [redacted] many were destined for export to China 50X1-HUM and the Satellite countries.

4. PT-( ). This was a steam turbine (parovaya turbina) (number unknown). Its function, use, production rate, or destination were unknown. Parts for this machine were processed at Shop No. 2 for many years.

5. MPS-( ). This machine's nomenclature, production rate, or use were unknown [redacted] 50X1-HUM

6. TsN-( ). This machine was believed to have been a centrifugal pump (tsentrobezhnyy nasos). Its characteristics, function, and production rate were unknown.

7. SG-8. [redacted] this item was an electric-powered generator or 50X1-HUM compressor. [redacted]

8. SG-50. This was a machine similar to the SG-8, probably an improved type.

9. EZh. This product was believed to have been an electric pump of very intricate design and construction ("E" - elektricheskiy; "Zh" - unknown). The plastic rotor blades, of very light color, emitted a strong alcoholic-chemical odor during handling and were of considerable strength. [redacted] 50X1-HUM [redacted] this machine was in production at the plant during 1950-1956, 50X1-HUM production rate and use unknown. The pump housing could be connected to other similar shafts. [redacted] this pump was used for 50X1-HUM extraction of petroleum.

10. K-65. This number was believed to have been the designation of a small compressor which was in production at the plant [redacted] 50X1-HUM [redacted] The compressor was assembled in a special shop located within the assembly workshop and the OTK inspections were conducted by Soviet Air Force officers, who intermittently appeared at the plant whenever a number of these compressors were assembled. The production of the compressors was not continuous. At times, six to eight such units would be assembled during one month, on the other hand, several months would go by without producing any. 50X1-HUM [redacted] The supervisors and shop workers were not military. These same air force officers would at times inspect or check the work done in Shop No. 2 on components parts for a small insert bearing (vkladnoy podshipnik), made for the small compressor. The bearing was oval shaped, made of bronze with a steel shaft, and was 32 millimeters in inside diameter and approximately 100 millimeters in length. [redacted] The outer shell of the bronze 50X1-HUM housing had a number of square-shaped cut-outs believed to be made for the purpose of reducing the weight of the unit. [redacted] 50X1-HUM [redacted] the tolerance of the bearing shaft must have been 0.02 millimeters. [redacted] no other parts processed at Shop No. 2 for the small compressor. It was said that the bearing after completion was always tested in a container filled with kerosin - petroleum. The results of the tests were unknown. The units were shipped from the plant individually packed in small wooden boxes. The packing was done in the assembly shop, not as was customary for other items which were prepared for shipment in the packing and crating shop. [redacted] 50X1-HUM [redacted] There were no extensive discussions at the plant regarding these compressors, but it was common knowledge that they were made for the Soviet Air Force. The first time the officers appeared at the plant must have been in 1953, not earlier.

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11. A number of pistons were produced at Borets, some of which were made of duraluminum, 150 millimeters in diameter, 300 millimeters long, and which resembled pistons for automobile engines. 50X1-HUM

Included in the report is an overlay of Moscow showing the Borets Machine Construction Plant location and surrounding area.

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C-O-N-F-I-D-E-N-T-I-A-L

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50X1-HUM

[redacted]

COUNTRY: USSR (Moskovskaya oblast)

SUBJECT: Borets Machine Construction Plant

REPORT [redacted]

DATE O[redacted]

DATE A[redacted]

DATE OF REPORT: 20 May 1960

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[redacted]

50X1-HUM

BORETS MACHINE CONSTRUCTION PLANT

1. The Borets Machine Construction Plant area extended for about one kilometer along the street (name unrecalled). There were shelter areas in the basement of the plant building which [redacted] were controlled by the spets otdel [redacted] New shops were being constructed in the area at the rear of the main plant buildings.

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50X1-HUM

2. The main products manufactured at the plant were air compressors and petroleum perforating machines. [redacted]

Transportation

3. Behind the main plant area, there were many double track railroad sidings which originated from the Belorusskiy Railroad Station. The majority of the railroad cars were flatcars drawn by electric engines to the plant entrance, and by steam shunting engines inside the main plant area. About 30 trucks (two, three and a half, four, six, and seven-ton) transported freight. The larger trucks came from the Yaroslavl plant and the remainder from the Likhachov (formerly Stalin) Plant in Moscow and the Molotov Plant in Gorkiy. Within the main plant area light trucks supplied the shops. [redacted]

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[redacted]

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Raw Materials

4. Iron ingots, the principal raw material, were received from a warehouse in Korocharovo, about 20 kilometers from Moscow, which supplied crude iron and steel to all Moscow plants. Angle iron was brought in from the Kalinin Plant about 200 kilometers distant. Metal pipe for use in the production of petroleum perforating machines came from a foundry in Tula, also about 200 kilometers distant.

5. Truck drivers were required to have special passes in order to enter the area of the unidentified Moscow plant which supplied oxygen to the Borets Plant. Liquid oxygen was transported by truck from an unidentified plant in Moscow in quantities of about 20 tanks every three or four days. The 25-liter steel tanks containing liquid oxygen had high necks and escape valves. Liquid oxygen was also transported by tank trucks which probably came from the Stankolit Plant which faced the Borets Plant. [redacted] the liquid oxygen was transformed into a gaseous state by unknown plant machinery in an unidentified shop.

6. Wire was received from the Serp i Molot Plant in Moscow. Glass wool in bundles was picked up at the warehouse of an unidentified plant in Yaroslavl. [redacted] this material was used for escape valve silencers or exhaust filters. Synthetic fiber plates about two meters by one and one-half meters in average size, and synthetic fiber pipe about one meter in length and 15-20 centimeters in diameter were brought in frequently from an unidentified plant in Orekhovo Zuyevo. The plates were of a dull reddish brown color, and were highly polished and shiny. The pipe was cut into segments about two-centimeters thick for use in the motors produced at the Borets Plant. The remainder of the raw materials were shipped to the plant by rail.

Truck Trips

7. [redacted] Beyond the Volga River dam, about 60 kilometers before Kalinin, there was a bridge approximately three kilometers in length. This bridge was guarded by army personnel, and truck drivers were required to stop and show their vehicle documentation. Although the guards were dressed in regular army uniform, [redacted] they belonged to the MVD.

8. [redacted] the airfields in Vnukovo about 30 kilometers from Moscow, to Bykovka [(sic)(possibly Bykovo, N 55-37, E 38-04)] about

40 kilometers from Moscow, and to the pier in Severnyy Port at the end of Leningradskoye shosse, about 25 kilometers from the center of Moscow and half way to Khimki. The truck route was along Borovskoye shosse to Vnukovo airfield in Kuntsevskiy rayon (Kuntsevo, N 55-44, E 37-27). On several occasions noise of jet aircraft at this airfield 50X1-HUM which was guarded by Air Force personnel. There were many metal towers near the civilian airfield. All the roads in the area were well-paved. The airfield in Bykovka, in Podolskiy rayon, was primarily used for air freight traffic, although there was a small amount of passenger traffic. The canal piers were guarded by sailors who wore the regular blue navy uniform.

9. The Borets Plant had a special section called plant supply which handled documentation for every trip. If the trip required remaining away over night, it was essential to have a komandirovka. The route sheet stated vehicle destination. Truck documentation consisted of a cardboard license stating destination, vehicle engine number, tonnage, and date of last vehicle inspection. Trucks were inspected every six months. When requested, documents had to be shown to the traffic police or military force personnel.

Organization and Personnel

10. The plant employed about 4,000 workers, of whom about 90 percent were specialists, i.e. fourth category workers or above. Prior to 1949, PW's, Germans and Rumanians worked at the plant. Every shop chief was assisted by a CP secretary, a partorg, and a labor union chief, profsorg. If there were more than 500 workers in a shop, the CP secretary and labor union official did not have a work assignment but attended to their respective duties. Every shop had a starshiy master and corresponding masters for the various types of jobs. The main directorate, zavkom, consisted of the plant director, the CP secretary, the labor union chief, the chief engineer, and the assistant director. 50X1-HUM

11. The spets otdel was in charge of information and keeping plant secret documents. 50X1-HUM

12. The garage personnel included a chief, assistant chief, a dispatcher, a chief mechanic, a profsorg, a partorg, a komsorg, mechanics, drivers, and office personnel, a total of about 50 employees.

13. following plant personalities: 50X1-HUM

(fnu),

Sergey Ivanovich or Vasilyevich, plant director, petroleum 50X1-HUM engineer

Nikolay or Nikolayev (fnu), plant partorg;

50X1-HUM

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Lebedev, (fnu), assistant director

Smirnov (fnu), garage chief

Plant Security

14. There were about 12 guards armed with rifles and carbines at the entrance gates. Only the interior of the plant area was guarded. The propusk contained a photograph and shop number. Construction shop (shop No. 12) workers, such as carpenters, masons, fitters, assemblers, and plumbers, had a special pass with a border, which permitted them access to all sections. the high reinforced concrete tower in the plant area was for defense against aerial attack. Plant firemen who operated two fire engines generally practiced fire drills every Sunday.

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COUNTRY: USSR (Moskovskaya oblast)

SUBJECT: Borets Machine Construction Plant in Moscow

REPORT

DATE OF

DATE A

DATE OF REPORT: 31 May 1960

50X1-HUM

BORETS MACHINE CONSTRUCTION PLANT IN MOSCOW

1. the Borets 50X1-HUM
Machine Construction Plant in Moscow. The
Borets Plant, known to source as Mashinostroitelnyy Zavod, was subordinate
to the Ministry of Machine Construction for the Petroleum Industry.
The plant was located on Skladochnaya ulitsa (number unrecalled) in
Dzerzhinskiy rayon, Moscow (see overlay of Moscow Map). 50X1-HUM
The plant employed close to 5,000 personnel. a Soviet,
Gerasimov (fnu), the director of the plant during 1954-1956.

Plant Products

50X1-HUM

2. The tasks performed in machine shop No. 2 involved the cleaning, grinding, drilling, cutting, and polishing of many machine parts in preparation for the finishing work done at other shops. several 50X1-HUM
of these components, such as crankshafts, housings, pistons, insert bearings, etc., used in the assembly of the machinery under production.

3. the following nomenclature and description of machinery 50X1-HUM
which was produced at the Borets Plant:

a. ND-20 (Nasos-davleniya, pressure pump.) This was a single cylinder electrically powered pump with an engine block about one and one-half

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50X1-HUM

meters long, two to three meters high. These pumps produced during 1946-1956, at an unknown rate, were believed to be for the petroleum industry or for agricultural purposes. No other specifications were known.

b. ND-40. This was a double-cylinder, pressure pump of larger size than the ND-20, weight unknown. The pump's production rate, use, cost, and sale price were unknown. The ND-40 was produced during 1946 - 1956.

c. KP-80. This was a compressor approximately three to four meters long, of heavy construction, which was mounted on wheels and drawn by a tractor. Two or three machines were produced per month 50X1-HUM The compressor's characteristics and use were unknown. 50X1-HUM many were destined for export to China and the Satellite countries.

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e. MPS-( ). This machine's nomenclature, production rate, or use were unknown 50X1-HUM

f. TsN-( ). This machine was believed to have been a centrifugal pump, (tsentrobezhnyy nasos). Its characteristics, function, and production rate were unknown.

g. SG-8. this item was an electric-powered generator or compressor. 50X1-HUM

h. SG-50. This was a machine similar to ~~(g) above~~ THE SG-8, probably an improved type.

i. EZh. This product was believed to have been an electric pump of very intricate design and construction ("E" - elektricheskiy; "Zh" - unknown). 50X1-HUM The plastic rotor blades, of very light color, emitted a strong alcoholic-chemical odor during handling and were of considerable strength. this machine was in production at the plant during 1950-1956. 50X1-HUM production rate and use unknown. The pump housing could be connected to other similar shafts. 50X1-HUM this pump was used for extraction of petroleum.

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k. A number of pistons were produced at Borets, some of which made of duraluminum, 150 millimeters in diameter, 300 millimeters long, and which resembled pistons for automobile engines. [redacted] 50X1-HUM [redacted]

Other Plants

4. Some raw materials were received at Borets from the Moscow plant, Krasnaya Med, location unknown. Bearings, ball and roller, were supplied by an unknown Moscow plant, whereas pipe, pistons and other metal supplies were received from a plant in Leningrad. The foundry of Borets Plant was small, and engine blocks were supplied to the plant from the Stankolit Plant located across the street on Skladochnaya ulitsa. (See overlay, page 6). the pistons supplied from Leningrad were similar to those previously received for which the Borets Plant paid 500 rubles per unit. The pistons supplied from Leningrad were considerably less expensive. 50X1-HUM

Special Material

5. various small parts such as bushing rings, sleeves, and casings, were made at the plant, and processed in the machine shops from a material which he named sarmayt (sic). This metal was composed of a special mixture of metals or alloys which produced a very hard steel. this metal was a Soviet development and it was not known in the Western world. no nickel-plated pumps produced at the plant. 50X1-HUM

Security

6. there were a number of watch- towers placed at intervals along the plant's perimeter fence. The watchtowers ware already in existence in 1946 and served as part of the security system so well known at most of the Soviet factories and plants. 50X1-HUM the guard system at Borets was in existence more to keep the workers inside the plant during working hours, than to protect the plant from intrusion of unauthorized visitors. Many workers used to jump the fence during 50X1-HUM their work shifts to take a few hours off, or to do some last minute shopping in town. The plant pass was always retained by the employees, and was only shown to the entrance guard when reporting for work. 50X1-HUM

Overlay of Moscow Showing Plant Location and Surrounding Area

7. The following legend identifies numericaly designations on overlay provided on page 6 :

1. Location of Borets Plant.

2. Butyrskiy Khutor sector, which underwent an extensive transformation after 1946. During the years 1953-1956, many fields and marshes of this area were converted into residential sections. Many large apartment buildings

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were in process or construction

3. Stankolit Plant. A large plant employing more personnel than Borets Plant. It was said that there was a high incidence of tuberculosis among the workers. 50X1-HUM

4. Savelovo Railroad Station.

5. Tverdyy Splav plant area. This plant produced a variety of cutting blades for metal processing lathes. 50X1-HUM

6. Residential area.

7. Skladochnaya ulitsa.

8. Polkovaya ulitsa.

50X1-HUM

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OVERLAY OF MOSCOW MAP

Area of Borets Plant in Dzerzhinskiy Rayon of MOSCOW
(26 - 27 - M)